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## Morgan Hebard

(1887-1946)

Morgan Hebard was born in Cleveland, Ohio, February 23, 1887, the only child of Charles Samuel and Hannah Morgan Hebard. On the paternal side his forebears were old pre-Revolutionary Connecticut stock, and one of his ancestors was Brigadier General Ebenezer Learned, Commander of the Connecticut Brigade at Valley Forge. His great grandfather, Learned Hebard, was a Congressman about one hundred years ago, and Chairman of the first Republican convention held in the state of Connecticut. His mother's father, David Morgan, was born in Wales, came to America as a young man, and settled in Cleveland, Ohio, where over the years in the iron and steel industry he built a considerable fortune.

Charles Hebard, the paternal grandfather of Morgan, was a successful lumberman, first in the Pocono country of Pennsylvania, and subsequently in the northern peninsula of Michigan. To this business his activities, and those of his two sons, Charles Samuel and Daniel Learned, were largely devoted during their lives. Gradually the business expanded so that they ultimately acquired from a land drainage company almost the entire area of the Okefinokee Swamp in southeastern Georgia. This great tract of almost five hundred square miles, originally containing an enormous stand of cypress, was ultimately acquired from the Hebard family by the United States Government as a wild life reserve.

While Charles S. Hebard and Daniel L. Hebard, like their father Charles Hebard, regarded Philadelphia as their home city, and maintained residences in suburban Chestnut Hill, all three

families, in Morgan's younger years, had winter homes at Thomasville, Georgia, and summer homes at Pequaming, Michigan, the site of the family lumber mills, on the southern shore of Lake Superior. In addition in winters at the turn of the century, Morgan's family spent periods of some weeks each at Miami, Florida, a community then in relative infancy, and on these visits he formed an acquaintance with the life of the now largely vanished or despoiled hammocks of southern Florida, which proved of value to him in studies of after years. An early interest in Lepidoptera was established largely by these visits to Thomasville and Miami, and his then-acquired knowledge of many of the moths and butterflies of those areas remained undimmed through his later life, which was largely devoted to critical work with other insects. His life-long interest in comparative faunistics was early nurtured by the opportunity for contrasting the Lepidoptera of these areas with those forms to be found about his Chestnut Hill home.

Morgan Hebard's interest in nature was inherent, and the collector's instinct also was early developed. In his youth his education was acquired from governesses or tutors, who moved with the family from Philadelphia to their other seasonal homes. In 1904 he entered Asheville School at Acton, North Carolina, and on graduating there followed the family precedent and entered Yale University, emerging with the Bachelor of Arts degree in 1910.

His boyhood collections covered a wide range, from historical relics to postage stamps, but the interest in nature was always paramount, accompanied as it was by the determination to find out as much as he could about a matter of particular interest, even if this entailed wading in swamps (without boots!) or excavating gopher holes. One characteristic early developed was a meticulous exactness and neatness in labelling his possessions, an appreciation of orderly arrangement which remained a marked trait throughout his life.

My first meeting with Morgan Hebard was in 1903, when as a young man of sixteen he came to the Academy of Natural Sciences in Philadelphia to determine some of his Lepidoptera captures. Dr. Skinner, then Curator of Insects, had met him pre-

viously and encouraged his interest. As a student then, some five years older, I gave him such assistance as was in my power and the acquaintance then formed ripened into a friendship and association which lasted through the years until his death, becoming to each of us a very vital part of our lives. Gradually he became interested in the Orthoptera, with which I had been working for some few years, and as he realized there was a very great deal to be learned about the insects of that order, and that he was fully capable of bringing to light much previously unknown concerning them, even of species from nearby areas, his native enthusiasm and energy turned toward the Orthoptera. In March, 1904, at the invitation of his parents, I spent a month with him at Thomasville, and daily we ransacked the country roundabout for Orthoptera. I encouraged him to put his observations in writing, and the results of this month of work appeared in 1905 as our first joint paper.

In the autumn of 1904 Morgan went to school at Acton and school terms were spent there for nearly two years, but all spare time in potential collecting seasons was occupied in climbing ridges and combing valleys, laying the foundations for a most comprehensive knowledge of the Orthoptera of the Southern Appalachians, which field always remained one of great interest to him. One summer of his school years was spent with his family in the Yellowstone and parts of the Colorado Rockies, while in part of another (1905) we were working together in northern Florida, with yellow fever rampant in New Orleans, as well as present in Pensacola, and quarantine regulations in force on every hand, which required us to have daily railroad station stampings placed on our Philadelphia health certificates, without which we could not enter the state of Florida. During his college years two summers were spent in Europe with his family, collecting Orthoptera on all possible occasions, while those of 1907, 1909 and 1910 we spent together in the field in the western states, in the inaugural work on a project which had slowly crystallized in our minds—a comprehensive series of Orthopteran field studies covering all the major areas of the United States, except for the few sections which were fairly well known, with as a future objective the preparation and publication of a

monographic work on the Orthoptera of North America. For forty years this remained the incentive behind the seasons of field work which have been carried out, largely working together in the field and in the laboratory. It is the hope of the surviving member of this rather unusual partnership that he may be able to carry this work forward to its completion, if for no other reason than as a tribute and memorial to the one who gave so much of his life, effort and resources to pave the way. A large number of joint papers, based in greater part on collections secured on the numerous field investigations, have been published preliminary to the projected larger work, and many others of the same type were brought out individually by Hebard in the last twenty-five years.

Following the completion of his college work, and in accordance with his father's wishes, Morgan spent a year in a banking office in Philadelphia, familiarizing himself with certain phases of business operations and the handling of investments and securities. In 1911 he was able to realize what had been for some years his greatest desire—that of devoting his time uninterruptedly, in both the field and laboratory, to his beloved Orthoptera. From that time until the late nineteen thirties, when physical limitations became restricting factors, he was seldom absent from his work desk for more than a short time, except when in the field. His plan for the formation of the Hebard Collection developed even before he was able to give unrestricted time to research, and the carefully planned seasonal field explorations, which occupied most of our summers from 1907 to 1928, had already been worked out in conferences and put into effect before his college years were ended. At a desk adjoining that of his colleague the days largely were spent in the preparation of the many important studies which came from his pen. He maintained a very extensive correspondence, studied numerous collections for institutions and colleagues elsewhere, and arranged important exchanges, usually of paratypic material, with other institutions, the majority of these abroad.

The physical arrangement of the Hebard Collection was entirely a personal task, to which he gave greatly of time and

energy, providing the entire housing in which this extensive series was quartered. The collection was physically deposited at the Academy from its inception, and bequeathed to that institution from the same early period. However, it was formally presented in toto, with its entire housing, in 1945, somewhat over a year before Mr. Hebard's death. During the twenty-five most active years of his work at the Academy he provided financially at various times for artists and preparators, and assisted in meeting the publication costs of a considerable number of the contributions of which he was sole or joint author.

The field investigations in the United States which Mr. Hebard planned and financed virtually in their entirety, were carried out by the two associates over fifteen seasons extending from 1905 to 1928, from six weeks to three months being spent each year. In addition in 1920 the two worked in Jamaica, Panama and the Santa Marta region of Colombia, while in 1913 Hebard visited and actively collected in Cuba, the Bahamas, Jamaica and Panama. As already mentioned, as a young man abroad with his parents in 1906 and 1908, he worked actively in the field in parts of England, France and Switzerland, and in a later year was able to do certain field work in parts of Italy and in Algeria. In London he early made the personal acquaintance of the late Dr. W. F. Kirby, and on subsequent visits met Dr. B. P. Uvarov, Dr. H. Karny and Dr. Lucien Chopard, with all of whom he long corresponded.

In the field Hebard was an indefatigable worker, endowed with superb hearing, which was of exceptional value in locating nocturnal stridulating forms. In addition he had that essential of the mountain worker, a splendid pair of lungs, and a physique which, while never massive, was a reservoir of energy, that could be galvanized into sustained action when time or fickle weather made the effort to reach and examine a certain peak or ridge a gruelling drive. Many high mountain summits, seldom visited by entomologists, where little known and often distinctive Orthoptera had been taken or were suspected to occur, were climbed and examined—Mt. Whitney, San Gorgonio Peak, San Francisco Peaks, Mt. Livermore in the Davis Mountains of

Texas, the high peaks of the Chisos Range in the same state, the Ruby Range, Charleston Peak and Mt. Wheeler in Nevada, Santa Fé Baldy in New Mexico, the summits of the Tushars in Utah, the edge of the ice on Mts. Rainier, Hood and Shasta, the Steen Mountains of Oregon, the Warners in California, and the Quinn Canyon Range in central Nevada, the Tetons of Wyoming and numerous others. Similarly the low hot deserts were as carefully examined, not once but frequently in several different seasons spent in the same general area. Death Valley was visited in the best Orthoptera season, which was in August, with a shade temperature of  $120^{\circ}$ , as well as many localities in the Yuma, Colorado, Mohave and Amargosa deserts in the best collecting, but physically trying, months of July, August and September. The Florida peninsula, as well as the Keys, the coastal plain of the southeastern states and the Gulf Coast region were areas in which portions of a number of seasons were spent, while all or part of five seasons were spent in the state of Texas alone.

The total number of localities examined in this work reached some thousands, and these extended from Virginia to the Florida Keys, westward to California and Washington. Extensive areas where considerable work had already been done by resident entomologists were usually omitted, and efforts were concentrated on those either little or very imperfectly known as far as the Orthoptera were concerned.

The plan of work varied from that first used of following railroad lines and stopping at points roughly fifty miles apart or with sharply contrasted physiography, and then striking out for promising environments, to the final development of using a motor truck, with full camp equipment, on individual circuitous trips of quite a few thousand miles each, with a number of specific areas as objectives. Saddle horses and pack animals were sometimes used, but most actual climbing in high places was accomplished only by using one's own feet, and sometimes hands as well.

The number of Orthoptera specimens taken in the course of this field work, extending from 1905 to 1928, totalled well over one hundred thousand, supplemented to an exceptional degree

by many hundreds of pages of critical field observations, always written up daily, and as yet only in part utilized in print. These notes always represented the observations and conclusions of the two workers, and were generally written up by Hebard in the evening sessions when the day's catch was being prepared. It sometimes happened that after a full day in desert sun, when as much as twenty miles had been covered on foot, the work of eviscerating and packing the material secured would take from five to seven hours more, or until the wee hours of the next morning. In several cases the day's catch reached a thousand specimens, but collecting always had objectives and there was no indiscriminate accumulation of numbers alone. Back of all the work was a studied effort to find and examine natural and, as far as possible, unaltered conditions. Cultivated land was largely by-passed, as the original orthopterous fauna was always the objective, and not the alterations brought about by cultivation or the clearing of native vegetation. In the earlier years four hand-carried fiber telescopes held all needed equipment for two, camp as well as collecting, an army "doggie" or shelter tent, nest of simple cooking utensils, mess kits, flash-lights and blankets. Often the bed was no more than a single blanket in a sand draw. When truck work became practicable, army cots and gasoline pressure lights became standard equipment, an era of luxury compared with the earlier days.

In addition to the long-range North American project, and the studies based in part on the results of the same, Mr. Hebard was steadily augmenting the breadth and coverage of the Hebard Collection by the purchase of unstudied Orthoptera material from various parts of the world, as well as that taken by certain reputable collectors in especially desirable sections of the United States. Unstudied series were purchased from Mexico, British Honduras, Guatemala, Costa Rica, Panama, Colombia, Venezuela, Trinidad, Amazonia, southern and eastern Brazil, Paraguay, Spain, the Balkans, Uganda, Kenya, the Belgian Congo, Natal, Rhodesia, Liberia, Madagascar, India, southern and interior China, Java, the Moluccas and Queensland, while the great Boettcher series of Philippine Orthoptera was acquired almost in its entirety. Two famous and classic collections, as-

sembled by outstanding investigators, were purchased in toto, i.e., the Lawrence Bruner collection of North and Central American Orthoptera, including hundreds of types of that author, many of these of species published in the section of the *Biologia Centrali-Americana* which came from his pen, and the J. L. Hancock collection of Tetrigidae of the world, the largest single collection of that group in existence, and also including some hundreds of that author's types. When all of these series were added to the representation of Orthoptera and Dermaptera previously owned by the Academy of Natural Sciences, as they now have been, there is found in one collection in Philadelphia, the largest and most comprehensive collection of Orthoptera in the world, even surpassing those in London, Paris and Berlin.

For many years Mr. Hebard carried on important exchanges with European institutions, and in consequence paratypic material of hundreds of species described from those collections were added to the Philadelphia series, in return for paratypes of species described by the Philadelphia group.

The original contributions to our knowledge of the Orthoptera and Dermaptera which came from the pen of Morgan Hebard, either individually or jointly with the present biographer, totalled 197 titles, with a pagination in excess of five thousand. The North American fauna always held a preeminent position in his mind and work, and among his contributions to that fauna were faunistic studies on the Dermaptera and Orthoptera of a number of specific states or provinces, as Alberta, North Dakota, South Dakota, Montana, Minnesota, Colorado, Arizona, Kansas, Oklahoma and Illinois, while his death left unfinished an extensive one on those elements of the Texas fauna. The purely systematic studies on the genera and species of the same orders were broad in coverage, including, among many others, comprehensive monographic works on the North American Blattidae or cockroaches, on the North American crickets of the subfamilies Nemobiinae and Mogoplistinae, and of the katydid group Pterophyllae, on many elements of the locusts of the group Melanopli, and, with this biographer, a considerable number of papers on sections of the North American Tettigoniidae or katy-



dids, the crickets of the genus *Gryllus* as found in North America, and the locusts of the Eumastacinae of the same area.

Hebard's studies on the Dermaptera and Orthoptera of other lands covered a very broad range, both systematically and faunistically. He was particularly interested in the cockroaches, and his various contributions to our knowledge of the Blattidae are probably more basic and fundamental for future systematic workers in that field than those of any other student since the days of Brunner and de Saussure, in the nineteenth century. His exotic faunistic work, which covered some scores of papers, was particularly important in connection with the Orthoptera of Baja California, Mexico, the West Indies, Panama, Colombia, Ecuador, Brazil, Malaya, southern India, Australia (chiefly on the Blattidae), and the Philippine, Hawaiian, Society, Marquesas and Galapagos Islands. His comprehensive studies of the Orthoptera of Panama, and of the Society, Marquesas and Hawaiian groups, are works which will long remain basic in their particular fields.

In the laboratory Morgan Hebard was completely absorbed in his work. He possessed to a high degree the ability to concentrate so completely on the subject in hand that he was almost oblivious to what went on about him. He could make his minutes count to a degree few possess, and also exclude from his mind or attention matters which he considered irrelevant to the work before him. With a keen, incisive mind he was able to grasp far more rapidly than most scholars the implications of a set of facts, and promptly to coordinate his conclusions. His rough manuscripts grew rapidly, set down in pencil in an almost cabalistic system of abbreviations, which he alone could follow with complete assurance. In consequence he preferred to type his own manuscripts, which he did at home, largely at night or over weekends. Similarly he personally assembled and mounted the original drawings for all the illustrations of his many papers, while the arrangement of the scores of thousands of determined specimens contained in the Hebard Collection always received his personal attention. While he had one or more skillful preparators constantly available, he often preferred personally to handle

repair work on particularly valuable or historic specimens, and his technique always was of the highest order. As an independent investigator, without routine responsibilities except such as he might care to assume, he was able to complete a relatively large amount of critical study in a relatively short time, and he moved from project to project with a celerity evidencing the dynamic energy which was so characteristic of him until his later years.

In 1913 Mr. Hebard married Margaret Champlin Perry Claxton of Philadelphia, a grand-daughter of the artist, John La Farge, and whose family ties also included one of the city's most distinguished medical families. Of their three children, two sons and a daughter, the younger son (Morgan, Jr.) and the daughter (now Mrs. Richard Lloyd), with Mrs. Hebard, survive their father.

From boyhood Morgan Hebard had loved the out-of-doors—hunting, trap-shooting, angling, golf and tennis—encouraged by his father who was an all-round sportsman of sterling qualities. To Morgan tennis and golf were good sports, but his favorite ones were angling—both trout and tarpon—and shooting. He was an exceptional shotgun shot, both at game and at the traps, and while a student at Yale, where he captained the trap-shooting team, was intercollegiate high gun, and for years he was exceedingly proficient with both rifle and revolver.

During the First World War he was commissioned a lieutenant, serving first with the Cinematographic Section of the Signal Corps, but later was transferred to the Military Intelligence Division. Released from duty shortly after the signing of the Armistice, he at once returned to and plunged again into his research work. While in the service he had hoped to be sent overseas, and there assigned to field intelligence work, but his duties in the Intelligence, and in which he immersed himself as deeply and as completely as he did when engaged with scientific problems, were concerned with a very vital phase of Army security in the camps in the United States, and in consequence he was held on this side of the Atlantic.

While as a child Morgan Hebard had been a sufferer from a bronchial affection, in his mature years he was seldom ill, until

in the thirties there became evident a progressive arthritic condition, which from being merely restrictive developed to a point where movements became painful and circumscribed. Long periods were spent under treatment in Philadelphia, New York and Boston, some single hospitalizations extending over almost a year, with fluctuating results. During these long absences from his usual haunts, he kept alive his interest in the Orthoptera, and in those periods, sometimes a number of months in length, when a periodic betterment would permit him to be brought to the Academy, he completed some of his last published papers, taking the same keen pleasure, as in earlier years, in finishing any piece of work. Arthritic distortions had seriously crippled his hands, but twice he virtually learned to write anew. In the last few years unable to hazard the rather long trip from his home to the Academy, he assembled pages of data from certain series which were taken to him for tabulation, and also virtually completed an important piece of revisionary work which will be published posthumously.

At Christmas time December 1946 I had a very cheery telephone conversation with him. It was full of the expectation of a sufficient betterment to be able to resume his trips to the Academy. A few days later, on December 28, 1946, a sudden heart attack ended the years of struggle against his insidious enemy arthritis.

Two of the outstanding personal characteristics of Morgan Hebard were an ability to push to completion, regardless of the obstacles physical or otherwise, a project with which he was engaged, and second, the determination to round out, to develop and to complete as far as possible, the great collection which he was responsible for assembling. Quick tempered and outspoken when confronted with injustice or incompetence, he was innately kind and sympathetic to those with whom he worked, regardless of their station. Although accustomed to a life of relative luxury, he was perfectly at home in the most rugged situations and with people in all walks of life. An excellent scholar in French and German, in both of which he had been tutored for years before his college days, and also with a good knowledge

of Spanish and Greek, he was often consulted by colleagues on difficult translations or interpretations. Possessed of an infectious humor, he was generally able to draw some amusement from situations which most people would regard as downright calamities. He possessed no false pride, and had no hesitation in asking for, accepting and acknowledging help in solving a problem before him. Similarly he was happy to be able to help others, and did so countless times. On outfit trips his personality soon won the friendship, respect and cooperation of those who cooked the meals and wrangled the horses or drove the truck. During a friendship and association covering forty-three years the biographer had many occasions to learn how deeply apparently trivial and passing things would impress themselves indelibly upon the mind and thoughts of his friend and colleague, sometimes recalled with an amused chuckle or grave retrospection a decade later.

To Morgan Hebard the attendance at formal meetings of any character was a sheer waste of valuable time. Except for those of the Scientific Council of the Academy of Natural Sciences of Philadelphia, of which he was a member for over twenty years, he rarely attended any such gatherings, either in Philadelphia or elsewhere. He was elected a Fellow of the Entomological Society of America some decades before his death, and was long a member, and for a time Treasurer, of the American Entomological Society. While elected a Life Member when a minor, at the time of his death he was a Benefactor of the Academy of Natural Sciences of Philadelphia, this conferred in recognition of his gift of the Hebard Collection in 1945. He was Curator of Insects of the Academy for a number of years, but accepted no salary for this service, and also held the title of Research Associate of the Academy, and later Research Fellow, for over twenty years. He was an honorary member of the Entomological Society of France, and also of the Colombian Natural Science Society, the latter conferred in recognition of his numerous papers on the Orthoptera of that country.

In 1945 the Hebard Collection of Dermaptera and Orthoptera was unrestrictedly presented to the Academy, where it had long

been deposited. The collection comprised approximately 250,000 specimens, representing in the North American field alone almost all known members of those orders in that fauna, in a number of cases the representation of the species being all known to exist in any collection. The number of species from the whole world represented by single types was 1369, with in addition approximately 2000 species by paratypes. The whole series filled 2400 Academy standard glass-top cabinet drawers, contained in 147 metal cases, all of which, originally supplied by Mr. Hebard, were presented with the collection.

As forty-three years constitutes by far the greater part of an adult life, the personal friendship of, and association with, Morgan Hebard formed a very vital and inseparable segment of my own days during the years which have passed. The memories of the many days spent together in the laboratory across adjoining desks, in desert heat or on mountain slopes, will always remain fresh, inspiring and treasured. All those who knew him well have lost a charming, kindly and brilliant associate. The loss to American entomology is also great, for there has gone from us a keen, logical and penetrating mind, a gentleman and a scholar, whose years in the field and in the laboratory brought high position in his field of work to his name and to his intellectual home, in which, as his work drew to a close, he placed the results of his labors.

JAMES A. G. REHN

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## A New Genus and Species of Buprestidae from Southern California (Coleoptera) \*

By WILLIAM F. BARR, University of Idaho

The apparently new genus and species of the family Buprestidae, tribe Buprestini described below, has been in the writer's collection for several years, having been represented by only a single specimen. Attempts have been made on several occasions to secure additional material, but with little success. It is now

\* Published with the approval of the Director of the Idaho Agricultural Experiment Station as Research Paper no. 276.